

Nebraska Department of Natural Resources Preliminary Republican River Basin Forecast (2012)

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Presented to the
**Nebraska Republican River
Management Districts Association
(NRRMDA)**



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Outline

- ❑ Preliminary 2011 Accounting Results
- ❑ Dry-year Forecast
- ❑ Compact Call Year Evaluation Flow Chart
- ❑ IMP Compliance Standards

Preliminary Accounting Results

(2011)

Preliminary 2011 Accounting

Year	Item	Information Source
Provisional Data for T = 0 (Current Year or Immediate Past Irrigation Season)	Pumping	Power records estimate
	Surface Water Use	Estimated from preliminary data and previous years values
	Stream flow	Available provisional records end of year estimated
	Evaporation	T – 1 records

Estimated 2011 Basin-Wide Balance in excess of 75,000 kAF

Preliminary Balance for Hardy

(2011)

Allowable Groundwater Depletion			Groundwater CBCU			Preliminary Estimated Annual Balance		
LRNRD	MRNRD	URNRD	LRNRD	MRNRD	URNRD	LRNRD	MRNRD	URNRD
69,123	79,757	116,977	48,444	59,098	83,122	20,679	20,659	33,855

Preliminary Dry-Year Forecast (2012)

Dry-Year Forecast

Year	Item	Information Source
Forecast Year T + 1 (Coming Irrigation Season)	Ground water Consumptive Use and Imported Water Supply Credit	Average values for T = 0 and T - 1
	Surface Water Consumptive Use	Colorado: Average of T - 1 and T - 2 use Kansas: + (.1858 x HCL content) + 9,575 Nebraska: - $(4 \times 10^{-7}) \times (\text{NE lake volume})^2$ + (0.52) x (NE lake volume) - 42,000
	Stream flow	+ (5-year average of state line flows) x 0.41 + 0.23 x HCL content - 27,450

Previous Years Balances

Year	Information Source
T = - 3 (2008)	Draft; current Accounting Procedures (v. 2005)
T = - 2 (2009)	Draft; current Accounting Procedures (v. 2005)
T = - 1 (2010)	Draft; current Accounting Procedures (v. 2005)
T = 0 (2011)	2011 Preliminary Accounting
T = + 1 (2012)	2012 Dry-Year Forecast

Average Based on Annual Balances

Year	Hardy	Guide Rock
T = - 3 (2008)	84,460	
T = - 2 (2009)	9,453	
T = - 1 (2010)	116,856	
T = 0 (2011)	75,254 (preliminary)	53,116 (preliminary)
T = + 1 (2012)	1,992 (forecast)	-7,267 (forecast)
Average	57,603	22,925

Forecast Balance for Hardy

(2012)

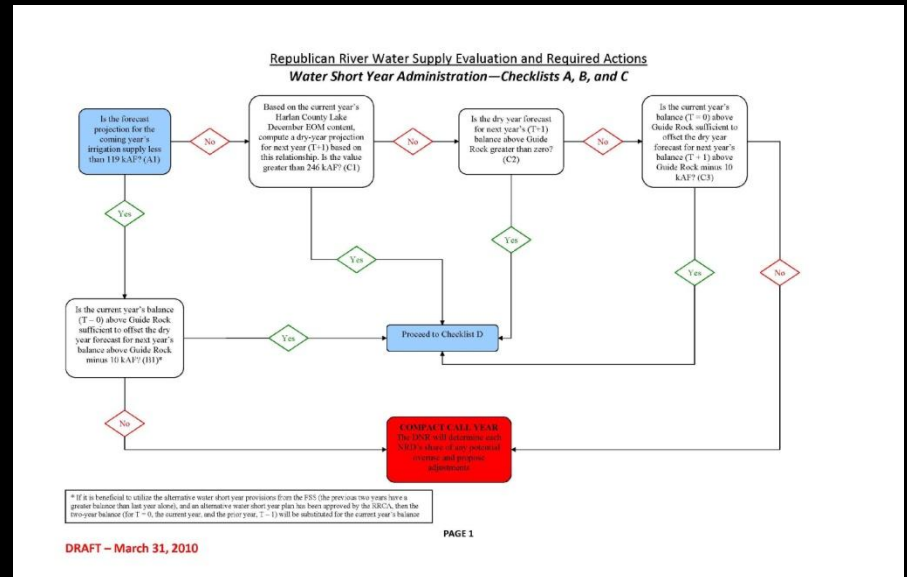
Allowable Groundwater Depletion			Groundwater CBCU			Preliminary Estimated Annual Balance		
LRNRD	MRNRD	URNRD	LRNRD	MRNRD	URNRD	LRNRD	MRNRD	URNRD
50,227	57,955	85,000	49,622	58,644	83,245	606	-689	1,755

Compact Call Year Evaluation (Checklist A.)

Is the forecast projection
for the coming year's
irrigation supply less than
119 kAF?

NO

Proceed to Checklist C.



Is the forecast 2012 EOM
Harlan County Lake
content greater than 246
kAF?

Proceed to Checklist D.



Will the forecast result in a 5-year average at Hardy that is greater than 10 kAF?

YES

Compact Call Year is
***not* in effect**



Compliance Standards

NRD Compliance Standards

- ❑ Evaluate 5-year averages
- ❑ Evaluate groundwater pumping compliance standards

NRD Annual Balances

(2006 – 2010)

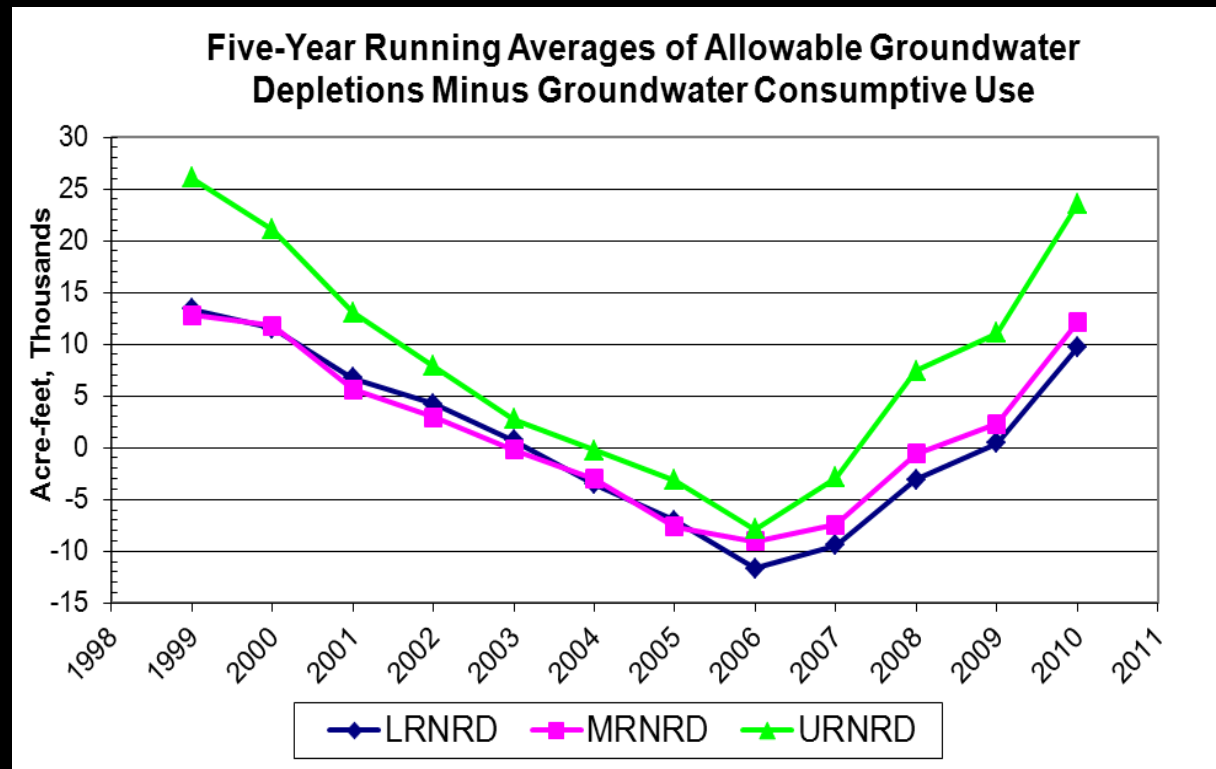
	Allowable Groundwater Depletion			Groundwater CBCU			Annual Balance		
Year	LRNRD	MRNRD	URNRD	LRNRD	MRNRD	URNRD	LRNRD	MRNRD	URNRD
2006	39,306	45,353	66,518	52,147	53,789	72,993	-12,841	-8,436	-6,475
2007	59,129	68,226	100,065	53,232	62,944	80,616	5,898	5,282	19,448
2008	73,490	84,796	121,368	51,522	55,816	82,345	21,968	28,980	42,023
2009	57,760	66,646	97,748	53,998	66,342	87,591	3,762	305	10,156
2010	80,225	92,568	135,766	50,799	58,189	83,368	29,426	34,379	52,398

5-Year Average Compliance Standard (2006-2010)

URNRD 23,510 AF

MRNRD 12,102 AF

LRNRD 9,643 AF

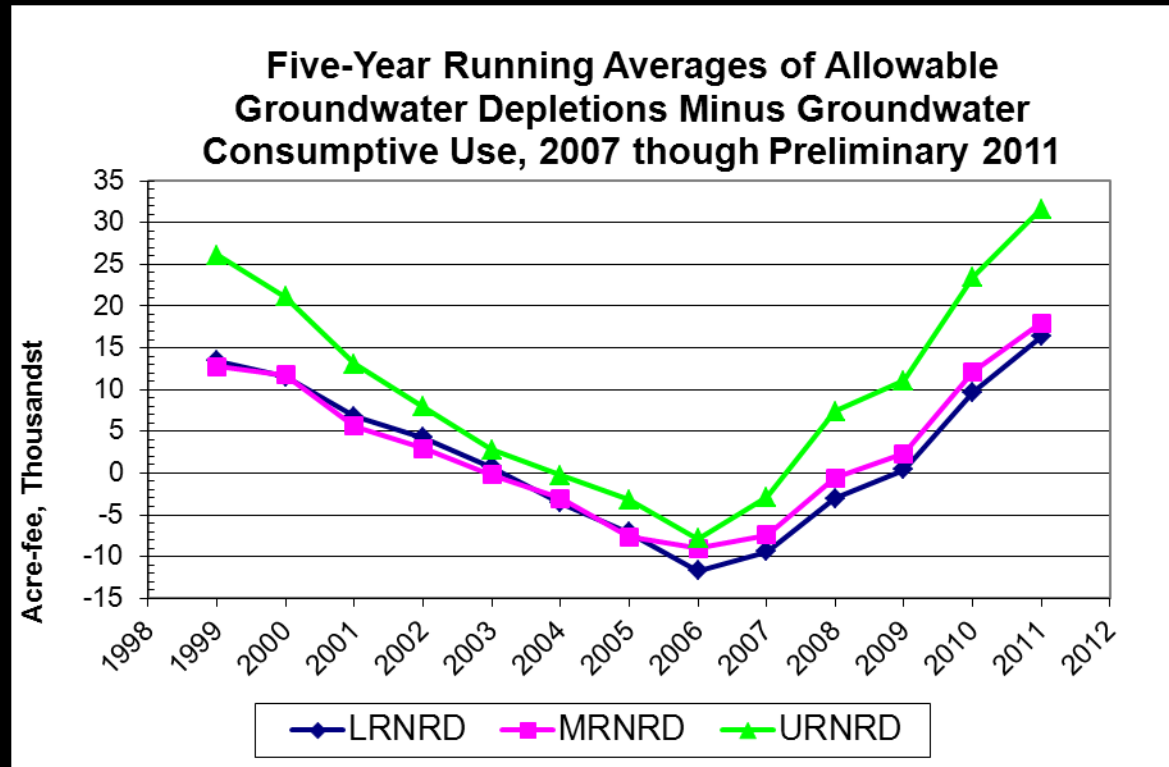


Early Projection of 5-Year Average Compliance Standard (2007-2011)

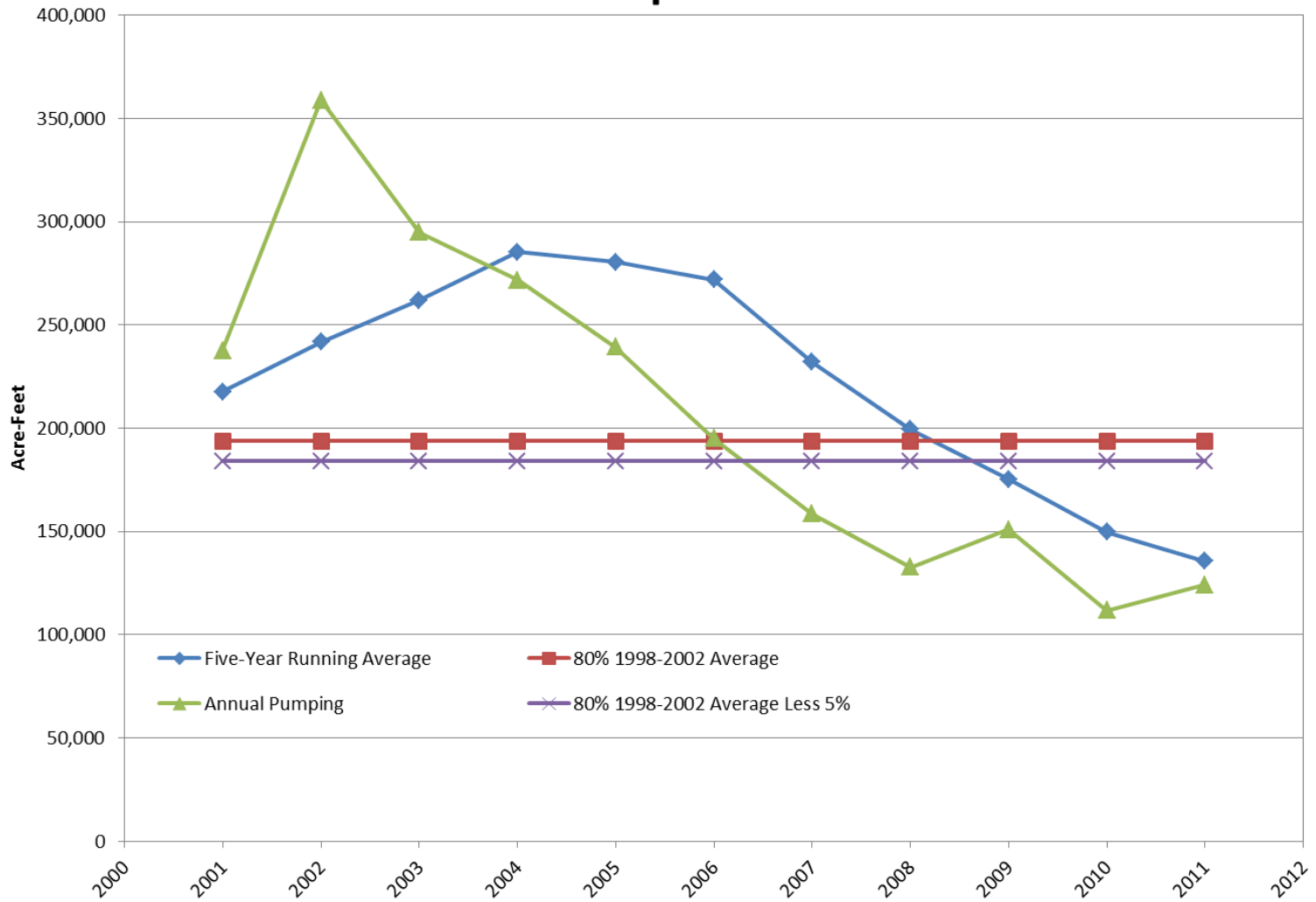
URNRD 31,576 AF

MRNRD 17,921 AF

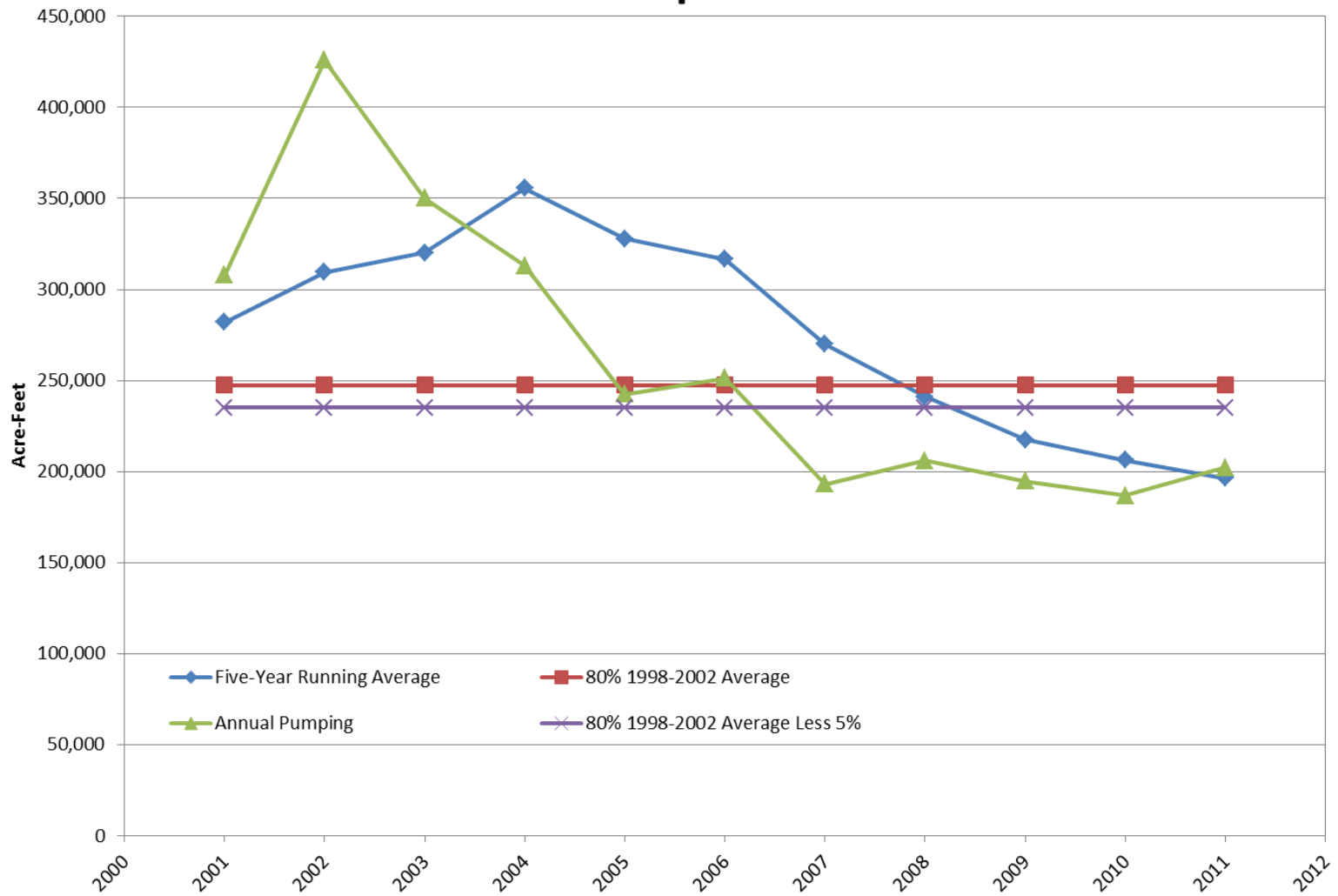
LRNRD 16,347 AF



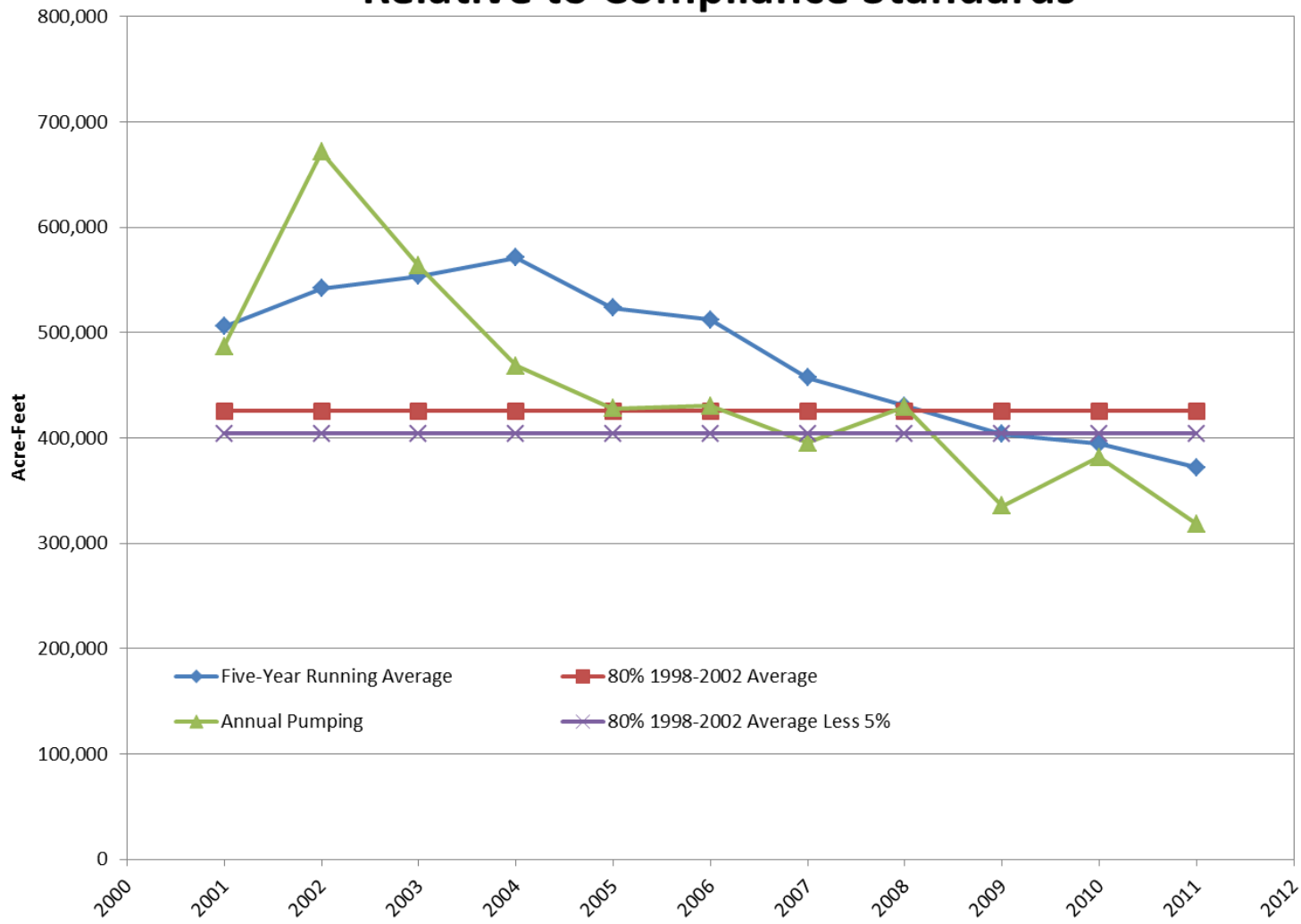
Lower Republican NRD Pumping Volumes Relative to Compliance Standards



Middle Republican NRD Pumping Volumes Relative to Compliance Standards



Upper Republican NRD Pumping Volumes Relative to Compliance Standards



Summary

- ❑ Preliminary 2011 accounting balance, approximately +75,000 ac-ft
- ❑ Preliminary Dry-year forecast and checklist does not indicate that a Compact Call Year will be in place in 2012
- ❑ 2012 Early Warning indicates that end of year content will exceed 246 ac-ft, however, if next years Early Warning indicates that 2013 end of year lake content will be less than 246 ac-ft and the 2013 forecast is negative then the 2012 balance must be positive to avoid Compact Call Year
- ❑ All NRDs are within IMP Compliance Standards for 5-year average and groundwater pumping

Thank you

Questions?

